IN THE CLAIMS

Please cancel claims 22 and 23 and amend claims 15 and 37 as follows:

1. (PREVIOUSLY PRESENTED) A method of equalizing an input signal comprising a lower layer signal non-coherently layered with an upper layer signal, comprising:

delaying the input signal;

equalizing the delayed input signal according to equalizer parameters;

demodulating the input signal having input data to produce the upper layer signal;

remodulating the upper layer signal to produce a training sequence, wherein the training sequence is comprised of adjacent symbols in the input data;

subtracting the remodulated upper layer signal from the equalized and delayed input signal; and

generating the equalizer parameters from the training sequence.

2. (ORIGINAL) The method of claim 1, further comprising decoding the input signal after the demodulation.

3. (ORIGINAL) The method of claim 2, further comprising re-encoding the input signal prior to the remodulation.

4. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the equalizer parameters are generated by performing steps comprising comparing the training sequence with the input signal to determine channel distortion.

5. (PREVIOUSLY PRESENTED) The method of claim 4, wherein the equalizer parameters are generated by performing steps comprising subtracting the adjacent symbols from the input signal to reproduce channel impairments, wherein the channel impairments are subtracted from the input signal for equalization.

6. (ORIGINAL) The method of claim 5, wherein the channel impairments comprise inter-symbol interference.

7. (CANCELED)

8. (PREVIOUSLY PRESENTED) An apparatus for equalizing an input signal comprising a lower layer signal non-coherently layered with an upper layer signal, comprising:

means for delaying the input signal;

means for equalizing the delayed input signal according to equalizer parameters;

means for demodulating the input signal having input data to produce the upper layer signal;

means for remodulating the upper layer signal to produce a training sequence, wherein the training sequence is comprised of adjacent symbols in the input data;

means for subtracting the remodulated upper layer signal from the equalized and delayed input signal; and

means for generating the equalizer parameters from the training sequence.

9. (ORIGINAL) The apparatus of claim 8, further comprising means for decoding the input signal after the demodulation.

10. (ORIGINAL) The apparatus of claim 9, further comprising means for re-encoding the input signal prior to the remodulation.

11. (ORIGINAL) The apparatus of claim 8, wherein the means for generating equalizer parameters comprises means for comparing the training sequence with the input signal to determine channel distortion.

12. (ORIGINAL) The apparatus of claim 11, wherein the means for generating equalizer parameters comprises means for subtracting the adjacent symbols from the input signal to reproduce channel impairments, wherein the channel impairments are subtracted from the input signal for equalization.

13. (ORIGINAL) The apparatus of claim 12, wherein the channel impairments comprise inter-symbol interference.

14. (CANCELED)

15. (CURRENTLY AMENDED) An apparatus for equalizing an input signal comprising a lower layer signal non-coherently layered with an upper layer signal, the apparatus comprising:

a buffer, for delaying the input signal;

an equalizer, for equalizing the delayed input signal according to equalizer parameters;

a demodulator for demodulating the input signal to produce the upper layer signal;

a remodulator, communicatively coupled to the demodulator, for remodulating the demodulated input signal to produce a training sequence, wherein the training sequence is comprised of adjacent symbols in the input data;

a signal canceler, communicatively coupled to the remodulator and the [[third]] equalizer, for subtracting the remodulated demodulated input signal from the equalized delayed input signal;

a parameter generation module, communicatively coupled to the remodulator and the equalizer, for generating the equalizer parameters from the training sequence.

16. (ORIGINAL) The apparatus of claim 15, further comprising a decoder for decoding the input signal after the demodulation.

17. (ORIGINAL) The apparatus of claim 16, further comprising a re-encoder for re-encoding the input signal prior to the remodulation.

18. (ORIGINAL) The apparatus of claim 15, wherein the parameter generation module compares the training sequence with the input signal to determine channel distortion.

19. (ORIGINAL) The apparatus of claim 18, wherein the parameter generation module subtracts the adjacent symbols from the input signal to reproduce channel impairments, wherein the channel impairments are subtracted from the input signal for equalization.

20. (ORIGINAL) The apparatus of claim 19, wherein the channel impairments comprise inter-symbol interference.

21. (CANCELED)

22. (CANCELED)

23. (CANCELED)

24. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the delayed input signal is equalized by a blanket equalizer.

25. (PREVIOUSLY PRESENTED) The method of claim 24, wherein the step of equalizing the delayed input signal according to equalizer parameters comprises the steps of:

receiving and filtering the training sequence with a transversal filter; and

summing the delayed input signal and the filtered training sequence to create an estimated symbol sequence.

26. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the delayed input signal is equalized by a first equalizer, and the method further comprises the steps of:

equalizing the input signal with a second equalizer before demodulation of the input signal;

equalizing the remodulated upper layer signal subtracted from the delayed input signal with a third equalizer.

27. (PREVIOUSLY PRESENTED) The method of claim 26, wherein the second equalizer and the third equalizers are distributed feedback equalizers.

28. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the upper layer signal is a legacy signal and the lower layer signal is a non-legacy signal.

29. (PREVIOUSLY PRESENTED) The apparatus of claim 8, wherein the means for equalizing the delayed input signal comprises a blanket equalizer.

30. (PREVIOUSLY PRESENTED) The apparatus of claim 29, wherein the means for equalizing the delayed input signal according to equalizer parameters comprises:

a transversal filter for receiving and filtering the training sequence; and

a summer for summing the delayed input signal and the filtered training sequence to create an estimated symbol sequence.

31. (PREVIOUSLY PRESENTED) The apparatus of claim 8, wherein the delayed input signal is equalized by a first equalizer, and the apparatus further comprises:

a second equalizer for equalizing the input signal before demodulation of the input signal;

a third equalizer for equalizing the remodulated upper layer signal subtracted from the delayed input signal.

32. (PREVIOUSLY PRESENTED) The apparatus of claim 31, wherein the second equalizer and the third equalizers are distributed feedback equalizers.

33. (PREVIOUSLY PRESENTED) The apparatus of claim 8, wherein the upper layer signal is a legacy signal and the lower layer signal is a non-legacy signal.

34. (PREVIOUSLY PRESENTED) The apparatus of claim 15, wherein the equalizer comprises a blanket equalizer.

35. (PREVIOUSLY PRESENTED) The apparatus of claim 34, wherein the equalizer comprises:

a transversal filter for receiving and filtering the training sequence; and

a summer for summing the delayed input signal and the filtered training sequence to create an estimated symbol sequence.

36. (PREVIOUSLY PRESENTED) The apparatus of claim 15, further comprising:

a second equalizer for equalizing the input signal before demodulation of the input signal;

a third equalizer for equalizing the remodulated upper layer signal subtracted from the delayed input signal.

37. (CURRENTLY AMENDED) The apparatus of claim 36, wherein the second equalizer and the third equalizer[[s]] comprise distributed feedback equalizers.

38. (PREVIOUSLY PRESENTED) The apparatus of claim 15, wherein the upper layer signal is a legacy signal and the lower layer signal is a non-legacy signal.